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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER  
STAFIRA, M

ART UNIT  
PAPER NUMBER  
2877

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
**09/309,157**

Applicant(s)  
**Wright et al.**

Examiner  
**Michael P. Stafira**

Group Art Unit  
**2877**



☒ Responsive to communication(s) filed on filing date 5/10/1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-39 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-39 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 8 it is unclear as to what type of light is be reflected or passed through the substance. It is believed that the word --near-- needs to be inserted between the “sensing infrared”.

Examine also points-out that the claims have numerous errors of this type and it the responsibility of the applicant to review all the claims and make corrects.

In claim 1, line 20 “product” should be delete and --substance--should be entered for correct antecedent basis.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14,17-27,29-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stearns et al. ('302) in view of Sadjadi ('354).

Claim 1

Stearns et al. ('302) discloses a light source (120) capable of producing a near infrared radiation in a controllable direction to a substance location (30) (See Fig. 2 & 3).

The reference of Stearns et al. ('302) further discloses a sensor (250) oriented towards the substance location and capable of sensing near infrared radiation reflected from or passing through the substance location (See Fig. 2).

Stearns et al. ('302) further discloses a housing (20) including a monochromat or having no moving optical components and capable of isolating narrow portions of the near infrared spectrum and a detector (400) positioned to detect and quantify one isolated narrow portions of the near infrared spectrum created (See Fig. 2; Col. 3, lines 9-15; also see abstract). It would be obvious to one skilled in the art to know that the multispectral reflectometer of Stearns et al. ('302) produces the same type of information as a monochromat or by isolating the wavelengths with a photodetector array as disclosed in Col. 3, lines 9-15 and Col. 6, lines 6, lines 60-68).

The reference of Stearns et al. ('302) further discloses a communication member (200) between the sensor (250) and the monochromat or to transfer the sensed near infrared radiation to the monochromat or (Col. 4, lines 1-3).

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Stearns et al. ('302) further discloses a processor operatively connected to the monochromat or for determining the amount of constituents in the substance based on the detected near infrared spectrum (Col. 6, lines 59-68, Also see abstract)

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show at least a housing and the substance being movable relative to the other. Sadjadi ('354) shows that it is known to move a substance relative to a housing for measuring large amounts of substance (Col. 2, lines 40-42; Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

#### Claims 2 & 3

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show a housing in mounted on a moveable carrier such as a agricultural implement. Sadjadi ('354) shows that it is known to have a housing mounted on a moveable carrier such as a agricultural implement (See Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the agricultural implement of Sadjadi ('354) for the purpose of providing real-time measurements of large amounts of substance.

#### Claims 4 & 6

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being a pre-harvested or post-harvested agricultural product. It would have been an obvious matter of design choice to gain data on pre-harvested or post-harvested

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product, since applicant has not disclosed that the pre or post-harvested product solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with what was disclosed in the reference of Stearns et al. ('302) in combination with Sadjadi ('354).

## Claims 5 &amp; 7

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show the product is a grain. Sadjadi ('354) shows that it is known to measure a grain (Col. 2, lines 40-43). It would have been obvious to combine the device of Stearns et al. ('302) with the grain of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of grain.

## Claim 8

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being soil. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use soil, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

## Claim 9

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show at least a housing is stationary and the substance being movable relative to the housing. Sadjadi ('354) shows that it is known to move a substance relative to a housing for measuring

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large amounts of substance (Col. 2, lines 40-42; Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

#### Claims 10 & 11

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show the substance location is in a movable substance container such as an agricultural implement. Sadjadi ('354) shows that it is known to move a substance within a container such as a agricultural implement (Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing real-time measurement readings of a large amount of substance while it is being harvested.

#### Claim 12 & 13

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show a substance is moving on a transport vessel such as a conveyor. Sadjadi ('354) shows that it is known to move a substance on a transport vessel such as a conveyor (Col. 2, lines 40-43; Fig. 2). It would have been obvious to combine the device of Stearns et al. ('302) with the conveyor of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

#### Claim 14

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the housing is mounted on a movable carrier and the substance location is moveable. It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to mount a housing on a movable carrier with the substance location moveable since it was well known in the art that the housing on a moveable carrier allows the measurement of different substance as the housing returns to its start position.

Claim 17

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for methods comprising stationary interferometry etc.. It would have been an obvious matter of design choice to use methods etc..., since applicant has not disclosed that the methods solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the disclosed reference.

Claim 18

Stearns et al. ('302) discloses the near infrared radiation is in the range of 400 nm to 1100 nm wavelengths (See Fig. 3).

Claim 19

The reference of Stearns et al. ('302) further discloses that the sensor is fiber optic (Col. 4, lines 1-3).

Claim 20

Stearns et al. ('302) further discloses that the detector is a photodiode array (Col. 5, lines 37-38).

Claim 21



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Stearns et al. ('302) discloses irradiating the substance (30) with near infrared radiation (See Fig. 2 & 3).

The reference of Stearns et al. ('302) further discloses a sensor (250) for sensing near infrared radiation reflected from or passing through the substance location (See Fig. 2).

Stearns et al. ('302) substantially teaches the claimed invention except that it does not teach moving one of the substance or the sensor relative to one another. Sadjadi ('354) shows that it is known to move a substance relative to a sensor for measuring large amounts of substance (Col. 2, lines 40-42; Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

Stearns et al. ('302) further discloses isolating the sensed radiation into one narrow portions of the spectrum (See Fig. 2; Col. 3, lines 9-15; also see abstract).

Stearns et al. ('302) further discloses analyzing one narrow portion and determining the amount of constituents in the substance (Col. 6, lines 59-68, Also see abstract).

#### Claim 22

Stearns et al. ('302) discloses the near infrared radiation is in the approximate range of 400 nm to 1700 nm wavelengths (See Fig. 3).

#### Claim 23

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the sensor is moving relative to the substance. It would have been obvious to one having

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ordinary skill in the art at the time the invention was made move the sensor relative to the substance since it was well known in the art that moving the sensor allows the measurement of different substance as the sensor returns to its start position.

Claim 24

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show a sensor is positioned in a agricultural implement. Sadjadi ('354) shows that it is known to have a sensor positioned in a agricultural implement (See Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the agricultural implement of Sadjadi ('354) for the purpose of providing real-time measurements of large amounts of substance.

Claim 25

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being a pre-harvested agricultural product. It would have been an obvious matter of design choice to gain data on pre-harvested product, since applicant has not disclosed that the pre-harvested product solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with what was disclosed in the reference of Stearns et al. ('302) in combination with Sadjadi ('354).

Claim 26

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being soil. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use soil, since it has been held to be with in the general

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skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claim 27

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show the substance being movable relative to the sensor. Sadjadi ('354) shows that it is known to move a substance relative to a sensor for measuring large amounts of substance (Col. 2, lines 40-42; Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

Claims 29-32

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for utilizing the constituents for agricultural hybrid development, breeding programs, soil analysis, or non-destructive analysis of nutraceuticals. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use one of these analysis systems since it was known in the art that the analysis would provide better information for harvesting.

Claim 33

Stearns et al. ('302) discloses irradiating the substance (30) with near infrared light (See Fig. 2 & 3).

The reference of Stearns et al. ('302) further discloses a sensor (250) for sensing near infrared light reflected from or passing through the substance location (See Fig. 2).

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Stearns et al. ('302) substantially teaches the claimed invention except that it does not teach moving one of the substance or the sensor relative to one another. Sadjadi ('354) shows that it is known to move a substance relative to a sensor for measuring large amounts of substance (Col. 2, lines 40-42; Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

Stearns et al. ('302) further discloses isolating the sensed radiation into one narrow portions of the spectrum (See Fig. 2; Col. 3, lines 9-15; also see abstract).

Stearns et al. ('302) further discloses analyzing in real time one narrow portion and determining the amount of constituents in the substance (Col. 6, lines 59-68, Also see abstract).

#### Claim 34

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show a housing in mounted on a mobile carrier. Sadjadi ('354) shows that it is known to have a housing mounted on a mobile carrier (See Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the mobile carrier of Sadjadi ('354) for the purpose of providing real-time measurements of large amounts of substance. It would be further obvious to one skilled in the art to know at the time of the invention to have the housing mounted in such a way so that the substance is past over by the carrier.

#### Claim 35

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Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being a pre-harvested, post-harvested agricultural product, or soil. It would have been an obvious matter of design choice to gain data on pre-harvested, post-harvested product, or soil, since applicant has not disclosed that the pre or post-harvested product or soils solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with what was disclosed in the reference of Stearns et al. ('302) in combination with Sadjadi ('354).

#### Claims 36-37

Stearns et al. ('302) in combination with Sadjadi ('354) discloses the claimed invention except for the pre or post-harvested agricultural products comprise nutraceuticals. It would have been obvious matter of design choice to use nutraceuticals, since applicant has not disclosed that nutraceuticals solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the combination of Stearns et al. ('302) and Sadjadi ('354).

#### Claim 38

Stearns et al. ('302) further discloses that the narrow portions of the spectrum are isolated without moving optical components (See Fig. 2).

#### Claim 39

Stearns et al. ('302) discloses a light source (120) capable of producing a near infrared radiation in a controllable direction to a substance location (30) (See Fig. 2 & 3).

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The reference of Stearns et al. ('302) further discloses a sensor (250) oriented towards the substance location and capable of sensing near infrared radiation reflected from or passing through the substance location (See Fig. 2).

Stearns et al. ('302) a monochromat or having no moving optical components and capable of isolating narrow portions of the near infrared spectrum and a detector (400) positioned to detect and quantify one isolated narrow portions of the near infrared spectrum created (See Fig. 2; Col. 3, lines 9-15; also see abstract). It would be obvious to one skilled in the art to know that the multispectral reflectometer of Stearns et al. ('302) produces the same type of information as a monochromat or by isolating the wavelengths with a photodetector array as disclosed in Col. 3, lines 9-15 and Col. 6, lines 6, lines 60-68).

The reference of Stearns et al. ('302) further discloses a communication member (200) between the sensor (250) and the monochromat or to transfer the sensed near infrared radiation to the monochromat or (Col. 4, lines 1-3).

Stearns et al. ('302) further discloses a processor operatively connected to the monochromat or for determining the amount of constituents in the substance based on the detected near infrared spectrum (Col. 6, lines 59-68, Also see abstract)

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show at least a light source, monochromat or, communication member and processor and the substance being movable relative to the other. Sadjadi ('354) shows that it is known to move a substance relative to a light source, monochromat or, communication member and processor for

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measuring large amounts of substance (Col. 2, lines 40-42; Fig. 1). It would have been obvious to combine the device of Stearns et al. ('302) with the substance moving of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

5. Claims 15,16,28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stearns et al. ('302) as applied to claim 1 above, and further in view of Tobler et al. ('084).

Claims 15 & 16

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show a conduit forming a flow path for a substance and having a secondary conduit forming a diverted flow path for a substance. Tobler et al. ('084) shows that it is known to have a conduit forming a flow path for a substance and having a secondary conduit forming a diverted flow path for a substance (See Fig. 6). It would have been obvious to combine the device of Stearns et al. ('302) with the conduit of Sadjadi ('354) for the purpose of containing a substance in a controlled environment and to provide back-up relief with a secondary conduit.

Claim 28

Stearns et al. ('302) substantially teaches the claimed invention except that it does not show a substance moving in a conduit. Tobler et al. ('084) shows that it is known to have a conduit forming a flow path for a substance (See Fig. 6). It would have been obvious to combine the device of Stearns et al. ('302) with the conduit of Sadjadi ('354) for the purpose of containing a substance in a controlled environment.

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***Conclusion***

6. If the applicant wishes to send a Fax dealing with either a proposed amendment or for discussion for a phone interview, then the Fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

*Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is:*

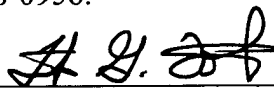
**(703) 308-7722**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Examiner Michael P. Stafira* whose telephone number is (703) 308-4837.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Michael P. Stafira  
Patent Examiner  
Art Unit 2877

March 20, 2001/mps

  
\_\_\_\_\_  
Frank Font  
Supervisory Patent Examiner